

STATE OF TENNESSEE

DEPARTMENT OF GENERAL SERVICES

RECORDS MANAGEMENT DIVISION

"DISASTER PREPAREDNESS PLAN"



COMMISSIONER'S ENDORSEMENT

Natural disasters such as floods, tornadoes, earthquakes and hurricanes or man-made disasters such as fires, flooding and explosions threaten the operation of State government at all levels. The State Records Center is not immune to the aforementioned possibilities. Because the State Records Center houses some of the State's more sensitive and confidential information, it is essential that steps be taken to: 1) provide preventative measures to protect State records; and 2) prepare beforehand to salvage valuable State records in the event a disaster does occur. In an effort to address disaster concerns, and business resumption plans, we submit the attached Disaster Preparedness Plan for your approval.

The purpose of the Records Management Disaster Preparedness Plan is to: 1) provide the basis for a systematic response to disasters that threaten the State Records Center, 2) identify disaster response personnel and their roles, 3) establish procedures for recovery of damaged records, 4) establish recovery priorities, 5) identify sources of supplies, equipment and services for recovery and restoration of damaged materials.

Each staff member should become familiar with this plan. All staff members will share in the responsibility to preserve and protect records stored at the State Records Center.

The development of this plan is particularly timely. In view of the large volume of records stored at the State Records Center, it is essential that an effective program be implemented to protect State records. With your approval, the State of Tennessee, Department of General Services, Records Management Division will have a functional recovery plan that can be employed to meet this need.

Larry Haynes, Commissioner	
Ed Jones, Deputy Commissioner	

PREFACE

The purpose of the "Disaster Preparedness Plan" is to provide for a smooth and rapid recovery of records in the event of a major disaster. Immediate action is essential in minimizing loss and successfully salvaging records. The onset of disaster is not the time to mull over and establish sound recovery procedures, or open lines of communication, or determine chain of command, or search out supplies. This should be accomplished ahead of time. See the Telephone Tree, page 3, for the chain of command and notification sequence to be followed in the event of a disaster.

The Records Management Division has evaluated several types of disasters, i.e., earthquake, fire, flood, vandalism. The major area of concern for the records stored at the State Records Center is water damage to the records. In any type of disaster, water damage will most likely occur; therefore, it is essential that preparations are in place for the recovery of damaged records.

RECORDS MANAGEMENT DIVISION DEPARTMENT OF GENERAL SERVICES

DISASTER PREPAREDNESS PLAN

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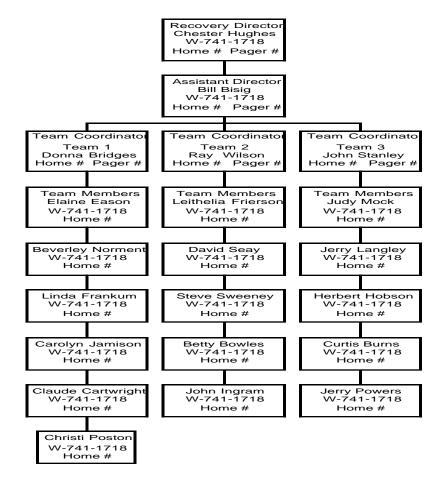
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Telephone Tree

Includes all Division Staff, Physical Address, Home Phone Number, Cell Phone number and Pager Number (if applicable)

Department of General Services PLAN FOR THE STATE RECORDS CENTER



OFFICE AREA DISASTER PLAN OF ACTION

INTRODUCTION

This plan of action is designed to outline specific duties and responsibilities for individuals assigned to TEAM 1 (Office Area) in the event of a disaster. This plan will aid you in responding quickly in the recovery process of a disaster. Natural disasters such as floods, tornadoes and earthquakes or man-made disasters such as nuclear accidents, fires, flooding and explosions, threaten the operation of the Records Management Division.

Keep in mind, our primary responsibility is the office area. This means we are responsible for the most critical area of the Records Management Division Operation. Our action plan includes our computer system (TRACES) and accessories, Forms Management's computer operation, Publication's computer operation, stand alone PCs, printers, diskettes, telephones, and other electronic equipment located in the office area. We are also responsible for important paper records. However, the most important of this group is TRACES.

This plan is outlined in a step by step process. The first line of defense against a disaster is prevention. Therefore, this plan will address the necessary steps we need to take in the prevention of a disaster occurring such as fire, water damage, i.e., burst water pipes or activated sprinklers.

PREVENTION

In order to take preventive measures to offset a disaster and prioritize our response in the event a disaster actually does occur, there is a need to identify what computer equipment, software programs, and records we have in the office area. This is accomplished by the use of the following inventory listing.

1.	Backup tapes (includes)	<u>Quantity</u>
	TRACES, Publications, and Forms Management Programs	1 daily (RMD System Administrator) 1 weekly (G/S Information System)
2.	Computer Equipment	Quantity and Type
	File Server	1 Dell 466
	PC's	10 Dells (1 - IPP/Netscape software) 6 Compaq (4 - Windows95, 1 Office95)
	Printers	4 IBM Lexmark laser 1 Panasonic laser
	Nodes 110 connector (on wall) multi-connector switch Modems Battery Backup (UPS)	5 (3270 connectors) 1 1 1 Telex 1 American Power Conversion
	Tape Drive (data cartridge) 1 CD-ROM Drive	1 Toshiba
3.	Other Electrical Equipment	Quantity

TV	1 Magnavox
VCR	1 Panasonic
Overhead Projector	1 Apollo
Slide Projector	1 Telex
Fax Machine	1 Brothers
Typewriters	2 Brothers
Copy Machine	1 Canon
Telephones	20 Comdial
Cassettes	46
Videos	25

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Prevention (Con't)

The following listing prioritizes the above items in order of importance and the order in which we will respond in the event of a disaster.

- 1. TRACES, Forms Management, and Publications information are located on the latest backup tapes to daily and weekly.
- 2. Computers: file server, UPS (power backup), tape drive, and any other peripherals.
- 3. Network node
- 4. Desktop PCs
- 5. Modems (2)
- 6. Printers
- 7. Paper Records (RDAs, Personnel, Administrative)
- 8. TV, VCR, Overhead Projector, Slide Projector, Overhead screen
- 9. Cassettes
- 10. Videos
- 11. Fax Machine
- 12. Typewriters
- 13. Telephones
- 14. Office Equipment (any office item remaining)

DISASTER PREVENTION PRE-INSPECTION

A Disaster Prevention Pre-Inspection is to be conducted the first Monday of each month by designated team members. The team members are to report their findings to the team leader.

1.	Are all PCs elevated at least 3 inches off floor? Yes No If no, identify the area and the individual responsible for the unit.
2.	Do all PCs have plastic covering to include covers for the key board and the hard drive? Yes No If no, identify the area and the individual responsible for unit.
3.	Do all printers have plastic covering? Yes No If no identify the area and the individual responsible.
4.	Do all typewriters have plastic covers? Yes No If no, identify the area and the individual responsible.
5.	Does all other electrical equipment have plastic covers, i.e., fax machine, copier, modems etc.? Yes No If no, identify the area and the individual responsible.
6.	Are office areas free of excess papers and documents filed away? Yes No If no, identify the person responsible for the office.
7.	Are all backup operations being performed as required and are backup diskettes being stored at an off-site location? Yes No If no, identify individual responsible for operation.
8.	Does individual have waterproof diskette case for storage of diskette? Yes No Is the individual using the case? Yes No If the answer to either of the questions is no, identify the individual.

DISASTER REACTION PLAN

The assumption at this point is that a disaster has occurred and an assessment of damage to the building has been completed. It is now safe to enter the building and conduct the recovery operation. This portion of the plan identifies specific responsibilities each individual has been assigned by the team leader during the recovery process.

- C. Jamison In the event of a disaster that requires the division to shut down TRACES for more than twenty-four hours, you are to report to General Services Information Systems Division and transport various reports from Systems to the Records Center requested by the staff. In the event Elaine Eason cannot be located, Carolyn Jamison will be responsible for the Forms Management Program. Christi Poston will assume the Publications Program role.
- E. Eason In the event of a disaster that requires the division to shut down the Forms Management Program or the Publication Program for more than forty-eight hours, you are to report to Information Systems and download programs to PC. You will be expected to contact all Forms and Publications Officers and inform them to forward all requests to that location until notified otherwise. You will be expected to process all requests until we have recovered. If the disaster time frame is less than forty-eight hours, you are to remain at the Records Center location and assist in the recovery.

ON-SITE RECOVERY TEAM THE FIRST 24 HOURS

- D. Bridges
- L. Frankum
- B. Norment
- (E. Eason)
- C. Cartwright
- C. Jamison
- C. Poston

This plan details the necessary recovery steps to be taken after a disaster has occurred to electronic equipment. The plan considers fire, smoke and water damage and is designed to limit and mitigate potential losses. The equipment we are concerned with are computers, printers, telephones, fax machine, typewriters, etc.

Before working with any electrical equipment make sure the power has been shut off!!!!

RESPONSIBILITIES during disaster:

Donna Computers, printers, peripherals, office equipment

Claude, Elaine, Carolyn, Beverley, Donna's offices

Forms (in warehouse)

Note: In the event Donna is not available/cannot be reached (vacation, etc.). Elaine

will assume the roll of Office Team Leader. Carolyn will assume Elaine's

responsibility to approve forms downtown.

Carolyn Christi, Ray and Herb's offices

Office Supplies - in office area Office Supplies - warehouse

Claude David, John Stanley, John Ingram, Steve, and Jerry Power's offices

Video & training equipment, Books (TCA & CFR)

Linda Chester, Bill, Linda, and Betty's offices

Library

Beverley RDAs

Leithelia, Judy, Jerry Langley, and Curtis Burns' offices

Elaine Forms Management approvals

Christi Publications approvals

NOTE: Elaine (or Carolyn) and Christi will fill in wherever needed, if and when they return from

downtown.

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RESPONSE TO SMOKE DAMAGE TO EQUIPMENT

Primary damage to electronic equipment is caused by smoke that contains corrosive chloride and sulfur combustion by-products. Smoke exposure during the fire for a relatively short period of time does little immediate damage. However, the particulate residue left after the smoke has dissipated, contains the active by-product which will corrode metal contact surfaces in the presence of moisture and oxygen.

- 1. Move the exposed equipment into an air-conditioned and humidity controlled environment as soon as possible. (Where?) Do not wrap the individual pieces of equipment in any material that tends to trap moisture inside the chassis).
- 2. Spray connectors, backplates and printed circuit boards surface with Freon or Freon-Alcohol solvents for preliminary cleanup.
- 3. Follow-up with any corrosion inhibiting aerosol spray to stabilize metal contact surfaces. This will leave a thin but easily removable coating, helping to prevent oxygen and moisture from activating the corrosion process. This process should stabilize the corrosion process.
- 4. Equipment will then be examined by a decontamination specialist to determine if the equipment can be salvaged.

WATER DAMAGE

It is a popular misconception that electronic equipment exposed to water and moisture is permanently damaged. Water which is sprayed, splashed or dipped onto electronic equipment can be easily removed. Even equipment that has been totally submerged can be restored. However, in every case of water damage, immediate countermeasures are imperative. It is most important to turn off all electrical power to the equipment; i.e., **DO NOT ENERGIZE ANY WET EQUIPMENT**.

- 1. Open cabinet, remove side panels and covers, and allow water to run out of equipment.
- 2. Set up fans to move room temperature air through the equipment for general drying. If at all possible, move equipment to dry air conditioned areas.
- 3. Use compressed air at no higher than 50 psi to blow out trapped water.
- 4. Use hand held dryers on lowest setting to dry connectors, backplate wiretraps and printed circuit cards. (Caution: Keep the dryer well away from components and wires. Overheating of electronic parts can cause permanent damage.)
- 5. Use cotton tipped swabs for hard-to-reach places. Lightly dab the surfaces to remove residual moisture.
- 6. Water displacement aerosol sprays containing Freon-alcohol mixtures are effective in first step drying of critical components.
- 7. Equipment is to be inspected by Information Systems personnel before operating.

TAPE/DISK DRIVE

The most important asset to be preserved following the loss is the division media.

Severe damage to disk read/write heads and tape transport mechanisms is probable if an attempt is made to operate with media which is not clean. Therefore, no diskettes or tapes are to be used that have been exposed to water, or smoke. All pertinent data is to be stored on backup diskettes or tapes stored at an off-site location. A "head crash" caused by particulate on the surface of a disk will not only **damage the drive but result in the loss of data.**

THEREFORE, WE WILL NOT ATTEMPT TO SALVAGE DISKETTES THAT HAVE BEEN EXPOSED TO CONTAMINATES.

The diskettes are to be discarded.

PAPER RECORDS RDA FILES/PERSONNEL FILES/LIBRARY/TCAs AND RULES AND ADMINISTRATIVE FILES

- 1. Remove records from file cabinets and pack wet documents in milk carton containers. (Do not remove from folders).
- 2. Mark or label containers identifying the documents.
- 3. Move containers to area designated for freezing.
- 4. Damp books If space allows, can be air-dried. Stand upright with covers and pages fanned open in cool, dry space that has good air circulation provided by fans. These items should be checked for mold.
- 5. Wet books Do not open soaked books. Pack wettest materials first from floor up. Soaked books already open should remain open. They can be lifted and moved on trays. Wet materials should be grouped in small units allowing free flow of air around each unit.
- 6. Cleaning and washing books before drying Hold book firmly under running water. Dab edges dry with a soft absorbent towel and interleave with fungicidal sheets for drying. Clinging mud can be brushed off after drying.

INITIAL SITUATION ASSESSMENT

1.	Time damage is thought to have started		
	Description of Disaster:		
2.	Fire/smokeSewageMuddy floodBroken pipe (clean)Leaking roofStorm damageother (describe) Area of Damage:		
	Alca of Dalliage.		
3.	Paper RecordsElectronic equipmentBooks		
4.	Estimates volume of records damaged and or electronic equipment:		
	General Condition of Materials:		
5.	SoakedStill Under WaterDampDirt/MudScattered on Floor		
	MoldySmoke damageOther (specify)		

Additional Comments:

WAREHOUSE AREA

PREVENTION

In order to take preventive measures to offset a disaster and prioritize our response in the event a disaster actually does occur, there is a need to identify what equipment and records we have in the warehouse area. This is accomplished by the use of the following inventory listing.

1.	Records Hand	ling Equipment	<u>Q</u>	<u>Quantity</u>
	Motoriz	ed Lifts		3
	Pallet Ja	icks		1
	Pallets			25
	Gaylord	Boxes		8
	Carts			3
	Steps	12 foot		1
	•	10 foot		1
		8 foot		1
		6 foot		1
	Two wh	eel trucks		2
2.	Vehicles			
	Vans		1	
	Trucks	(one ton)		1

The following listing prioritizes records in order of importance and the order in which we will respond in the event of a disaster.

<u>NAME</u>	LOCATIONS
Sample	Row 10, B16

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DISASTER REACTION PLAN

John Ingram	Shall be responsible for clearing all aisles of debris and restoring records and performing the disaster prevention inspections.	
David Seay -	Shall obtain all necessary materials for restoring damaged records.	
Herbert Hobson -	Shall be responsible for identifying all restored records and obtaining storage for records in the event that the Records Center is unavailable.	
Steve Sweeney-	Shall secure transportation for transporting all damaged records to an off site location or the Thermal plant for disposal.	
Betty Bowles -	Shall operate TRACES for the warehouse crew. This will be done from Systems, the Records Center, or any location where TRACES is functional.	
John Stanley -	Shall be responsible for all records deemed not salvageable.	
Jerry Powers -	Shall be responsible for records to be refiled in salvaged records.	

DISASTER PREVENTION PRE-INSPECTION

A disaster prevention pre-inspection is to be conducted the first Monday of each month by designated team members. The team members are to report their findings to the team leader. Are all aisles open and boxes accessible? 1. Yes No . If no, identify the aisles and note action necessary to make aisles accessible and notify team leader. Yes ____ No ____ 2. Is all records handling equipment functional? If no, identify equipment and problem and notify team leader. 3. Yes ____ No ____ Are all lights functioning properly? If no, check all switches and notify team leader of findings. Yes ____ No____ 4. Are all alarms functioning properly? If no, notify team leader. Yes ____ No____ 5. Are all fire extinguishers fully charged? If no, notify team leader. Are all doors functioning properly (including locking)? Yes ____ No___ 6.

If no, notify team leader.

MICROGRAPHICS

PREVENTION

Preventative measures are taken on a periodic basis in order to minimize loss of microfilm or damage to equipment. A portion of microfilm stored at the Records Center is inspected weekly for mold, mildew, fogging and redox; the inspection findings are noted in the inspection log and proper actions are taken in order to resolve problems. Each person is assigned to specific equipment and is responsible for preventative maintenance and placing service calls.

DISASTER REACTION PLAN

In response to a disaster, TEAM 3 will enact the following listed actions as prioritized.

- 1. The filming of time-critical records will be relocated to a back-up location/agency for microfilming; back-up agencies are the microfilming operations in Safety, Correction, and Employment Security. Microfilm {stored and being produced} is to be relocated to a safe location if the situation is warranted. The film is to be visually inspected for damage. Damaged film is segregated from undamaged film. Damaged film is treated by the appropriate method and the undamaged film is stored in a cool dry location in accordance with ANSI standards for the storage of silver gelatin microfilm.
- 2. Equipment is to be visually inspected and the maintaining vendor contacted. The electric equipment is not to be operated until inspected and approved for use by the maintaining vendor or the Team Coordinator. A report of damaged equipment is to be submitted to the Team Coordinator. A list of subject equipment follows:

Cameras

Kodak Imagelink 70

Kodak 2000

Minolta Planetary Kodak Prostar

Processor

Duplicators

Ozalid- diazo

Extek-silver

Microfilm Cleaner - Extek

Densitometer

Microscope

Film Rewinder

Loupe

3. Microfilm supplies, such as, raw film and chemicals is to be inspected for damage. A list of needed replacement or restoration supplies will be completed and submitted to the Team Coordinator.

REACTION RESPONSIBILITIES

TEAM 3 members are responsible for reacting to disasters as follows:

Jerry Langley, and **Judy Mock** are responsible for **Priority 1** {relocation of time-critical records microfilming and relocation, inspection... restoration of microfilm}. **Judy Mock** will first focus on relocation and microfilming of time-critical records and then join in the relocation, inspection... restoration of microfilm.

Curtis Burns -is responsible for Priorities 2 and 3 {inspection of equipment and supplies}. He is to list all visual damage to equipment and supplies and report to the Team Coordinator. In addition, he will contact vendors for equipment inspection/storage and replacement of damaged supplies. After completing these priorities, or if reassigned by the Team Coordinator, he is to join the microfilm relocation, inspection..., Priority 1.

INITIAL ASSESSMENT CHECKLIST

		WATER	DAMAGE FIRE	OTHER
Stored Microfilm				
Cameras				
Kodak Imagelink 70 Kodak 2000 Minolta Planetary				
Processor - Kodak Prostar				
Duplicators				
Ozalid- diazo Extek- silver				
Microfilm Cleaner - Extek Densitometer				
Microscope				
Film Rewinder Loupe				
Supplies				
Film-	100° 215°			
	Diazo dup.			
	Silver dup.			
Chemicals				
	Fixer Developer			
	F. Wash			
	D. Cleaner			
Genera	1			

I. PRE-EMERGENCY PLANNING & PREPARATIONS

A. DISASTER PREPAREDNESS TEAM

In order to implement an effective disaster preparedness program for the State Records Center, the Records Management Division has established a Disaster Preparedness Team (DPT). The DPT is a committee whose function is to establish the procedures and to organize the personnel necessary to prevent, prepare for, and recover from a crisis threatening the survival of the facility's records. The DPT consists of:

- 1. Recovery Director--This person's essential functions are consulting with experts, delegating authority, and final decision making concerning recovery procedures.
- 2. Representative Staff Members--These people, i.e., team coordinators and members, have knowledge of the records and other holdings of their offices and provide damage assessment information and work on salvaging operations. The teams are divided into three groups: Damage Assessment, Removal of Records, and Restoration Procedures. Appendix 5 lists the Team Members and the responsibilities for the three groups of teams.
- 3. Building Landlord--This person is familiar with the construction and maintenance of the facility in which the records are stored, and can be a contact for such people as an engineer, electrician, carpenter, and a plumber in the event of a salvage operation.
- 4. TEMA Official--Preferably, this person should be an officer of TEMA. The inclusion of this individual in the planning stages should attune emergency personnel to the priorities of a salvage operation, and in the event of an emergency damage to the collection would be minimized. (see TEMA Contact LIST).
- 5. Others--Additional individuals deemed necessary to carry out the duties and functions of the DPT. Such individuals are local experts, conservator, chemist, someone familiar with local resources, and volunteers to assist in the salvage operation. The local emergency services/management official can help facilitate the planning effort and reflect the information in the local emergency operation plan.

Members of the DPT should become familiar with the information contained in this manual and other materials published for disaster recovery methods. The DPT should meet at least once every six months so that checklists, agreements, and new developments are kept up to date. Follow-ups should be made on all delegated assignments. Each member should be supplied with an emergency packet, to be kept at home and brought to the disaster site in the event of an emergency. The packets should include the names and phone numbers of the DPT members, a copy of the Handbook for the Recovery of Water Damaged Business Records by Julia Niebuhr Eulenberg, a copy of the Division's essential records schedule (list of essential and vital records), a diagram of the floor area designating record location, a list of resource people (conservators, archivists, and other professional advisers), a list of volunteers and their phone numbers, and a copy of the forms and instructions on their use to be used during recovery procedures such as initial damage appraisal, damage location inventory, and removal inventory. (See Appendix 4 for samples.) Team members for each group must become familiar with the areas of responsibility for their team. In addition, team members must become familiar with the responsibilities for other team functions

as well. As an area of the recovery plan is completed, team members should be required to assist the other teams in completing their tasks.

B. PREVENTION PRECAUTIONS

In order to deter a disaster, the following preparations should be implemented:

- 1. Premises should be checked periodically for fire hazards such as, discarded rags and newspaper, defective wiring, broken or unshielded pipes, oil leaks, blocked aisles, and voids in shelving (fire traverses less rapidly when materials are shelved compactly).
- 2. Smoking is prohibited in all records storage areas. "NO SMOKING" signs are in place throughout the facility. The use of matches and any open flame devices should be strictly controlled when used near records.
- 3. Class ABC (see Appendix 14) fire extinguishers are installed at strategic locations throughout the facility and should be serviced every six months in order to ensure proper performance.
- 4. Heating and air conditioning systems should be checked and cleaned annually. Install fire dampers in the ventilation systems to check the spread of fire through the facility.
- 5. Install backwater valves in subgrade drains with the capacity to keep water from reaching the depth of three inches in the event of a sprinkler discharge.
- 6. The lowest shelf or drawer of a file cabinet in the records storage area should be elevated off the floor. The lowest shelf in the Records Center should not be used for storing vital or permanent records coming into the Records Center in order to reduce potential flooding damage to records. Assign records with short retention periods to the lower shelves. Evaluate Records Center locations for those vital or permanent records housed in the low shelf areas to determine if those records should be reassigned to higher locations in the Records Center.
- 7. Photocopy or microfilm copies should be made of all essential documents, and moved off site, to Library and Archives. Microfilm of different generic types, e.g., silver halide, diazo, and vesicular, are stored in separate shelving, as the different types can interact with each other producing dangerous gases.
- 8. If any nitrate base negative films are stored at the Records Center, it should be duplicated and discarded. This type of film is chemically unstable and highly flammable, it can spontaneously combust at temperatures as low as 106°F. Note: Photographic negatives prior to 1940 should be examined.
- 9. If construction alterations are made to the facility, fire resistant or non-combustible materials should be used in the walls and roofing of storage areas. Fire doors and fire dampers should be installed in the walls of any record storage areas.

- 10. A fire suppressant system is installed with smoke detectors and an automatic water sprinkler system. Water sprinklers inhibit fire spread and release a high density of water at low pressure which causes far less damage to records than water under pressure from a fire hose.
- 11. Rag paper should be used for salvage and recovery procedures. The use of water soluble duplicator processes, carbon copies, and water soluble inks should be avoided.

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C. EMERGENCY PREPARATIONS

The purpose of these preparations is to provide for a smooth and rapid recovery. Immediate action is essential in successfully salvaging records. The onset of disaster is not the time to mull over and establish sound recovery procedures, or open lines of communication, or determine chain of command, or search out supplies. These should be accomplished ahead of time.

- 1. A diagram (see Appendix 14) of the Records Center showing the location of file cabinets, shelving, or other storage units, and the types of records located there should be prepared to assist in finding records after a disaster. Copies of these diagrams should be placed in the DPT emergency packet.
- 2. A priority list for salvage of the materials should be prepared which addresses essential records as well as other material that is vital to the use of our records, such as finding aids. Copies of this list should be included in the DPT emergency packet.
- 3. A list of professional consultants, such as conservators and archivists, who can be contacted in the event of an emergency has been prepared. A copy of this list should be included in the DPT emergency packet (see Appendix 1 for a suggested list of professional consultants).
- 4. A list of Records Officers (volunteers) who should be willing to assist in the recovery procedures such as compiling inventories, packing, and removing damaged materials should be prepared. This list is to include name, phone number, and availability. A copy should be included in the DPT emergency packet.
- 5. Instruction should be provided to all employees on the emergency procedures to be followed in the event of disaster (such as fire, earthquake, flood, power failure, or explosion), the use of emergency equipment, and evacuation procedures. For more information, contact emergency services personnel in the Nashville area.
- 6. A list of facilities and supplies that might be needed in the event of salvage operations should be prepared. A copy of the list of facilities and supplies should be kept in the DPT emergency packet (see Appendix 2 for a list of supplies and facilities).
- 7. Forms and the instructions for their use that should be needed during recovery operations should be created and duplicated. Copies of these forms should be kept with the State Records Center's essential records and in the DPT emergency packet (see Appendix 4 for samples of these forms).

D. PRE-DISASTER ALERT

In the event that advanced warning of a disaster is given, i.e., approach of flood level is near, etc., preparations for evacuation of essential records at the State Records Center should be completed.

- 1. The Recovery Director will notify Motor Vehicle Management of the need for a vehicle large enough to place records which require evacuation.
- 2. Notify selected off-site storage facility that records will begin arriving at their facility at a designated time.
- 3. Notify the Team Coordinators of evacuation. Team Coordinators will notify Team Members of evacuation plan.
- 4. Team Coordinators and Team Members will begin removal of those records identified in Appendix 16. These records will be loaded onto the vehicle provided by Motor Vehicle Management.
- 5. Team Coordinators and Team Members will follow the steps outlined in Section II, Initial Recovery Procedures, Part B., Record Removal, Page 29 of this manual for removal of the records.

II. INITIAL RECOVERY PROCEDURES

Keep in mind that immediate action is essential in the salvage of records. Quick action to stabilize the environment should minimize damage to the records and allows the maximum quantity of records to be salvaged in a manner that reduces restoration costs. One should be careful not to disturb damaged material in order to minimize further damage, and to exercise caution while opening file drawers which may be subject to delayed combustion. A general plan of operations must be decided on before any recovery activities are started. The amount of records involved can often be the deciding factor in choosing between different procedures to accomplish the same objective.

A. DAMAGE ASSESSMENT

1. ASSEMBLY OF THE DISASTER PREPAREDNESS TEAM

When a disaster occurs at the State Records Center, all members of the DPT should assemble at the alternate site, the Braid Electric Co. building, as soon as possible. The Recovery Director will telephone the three team coordinators. The team coordinators will telephone their team members. The Recovery Director will begin telephoning the other professional assistance personnel required at the alternate site.

2. SECURING ACCESS TO DAMAGED AREAS

During the emergency, follow instructions of the emergency services personnel. After the event, have the premises checked by the appropriate official for safety before allowing anyone to enter. When entering the premises use caution, check for hazards such as weakened structures, submerged objects, and electrical wires.

3. PRECAUTIONS

In general, do not wipe mud or dirt off the materials, open or close wet books, separate loose materials, remove covers of soaked materials, disturb wet file boxes, prints, drawings, and photographs. Do not walk on debris under which records may be located. Such treatment can destroy the materials or increase the cost of restoration. Use caution when handling file cabinets which have been subjected to intense heat. Documents in file drawers have been known to spontaneously ignite up to 72 hours after a fire when the drawers are opened. Have an appropriate fire extinguisher (an ABC

extinguisher is recommended) available in case of such an event. Workers should be supplied with protective clothing where applicable. Ideally, individuals handling the damaged materials should do so under the direction of professionals.

4. INITIAL DAMAGE APPRAISAL

A preliminary appraisal of the damage to the records is to be done at this time, using the floor diagrams to inspect the records. This is a general survey, in order to get an idea of what sort of assistance, facilities, and supplies are needed. Special attention is to be paid to the condition of vital (essential) records, identified in Appendixes 15 and 16.

5. ASSEMBLY OF VOLUNTEERS AND SUPPLIES

One member of the DPT, Team Coordinator--Team 1, should begin to call volunteers using the list from the DPT emergency packet who were not called earlier by the Recovery Director. Another member of the DPT, Team Coordinator--Team 2, should arrange for needed supplies to be brought to the scene immediately. Identification badges should be issued to volunteers and team members.

6. SET UP OPERATIONS DESK

An operations desk should be set up as close as possible to the disaster site without being in the damaged areas. The Recovery Director should coordinate all procedures of the recovery from this desk, making volunteer assignments and distributing supplies from there. This desk could be set up in a non-passenger van supplied by Motor Vehicle Management.

7. STABILIZE ENVIRONMENT OF THE DISASTER SITE

Both relative humidity and temperature must be controlled in order to retard mold growth. It is important to keep a look out for mold. Warm stagnant humid air contributes to the development of mildew and should be avoided. Weather is an important factor in terms of temperature and relative humidity as it limits what one can do. The temperature can be reduced by using the air conditioning system or by opening the doors. Electric fans can be used to increase air circulation. Portable dehumidifiers can be used to reduce the humidity. Standing water should be removed by using a portable sump pump. Arrange an alternative source of electricity if necessary. Assign a volunteer to monitor the temperature

and the humidity in the affected areas. Ideally, the temperature should be maintained at between 50 and 60°F, and the relative humidity should be between 35% and 45%.

8. MOLD

There is a period of 48 hours before mold becomes a serious problem. Very wet and submerged materials are not subject to mold growth until they start to dry. If there are delays of more than 48 hours, then leave items submerged as this should prevent mold formation. Books, with the exception of those printed between 1880 and 1946 and those bound in leather, can be left in clean running water for up to two weeks. If mold appears, keeping the materials tightly packed on the shelves should restrict mold growth to the outer edges. One can either spray the affected areas with thymol or, if the situation warrants it, one can "bomb" the area over night with a thymol solution. This should be supervised by someone competent in fumigation of this type.

9. PREPARATION OF DAMAGE LOCATION INVENTORIES

Team members and volunteers who are familiar with the records and their locations should make the inventory of the damaged material. Information to be noted includes: record type, location, and type and extent of damage. These inventories should be used by the DPT in carrying out succeeding steps in the recovery (see the sample forms in Appendix 4).

10. TREATMENT DECISIONS

Using both the damage location inventories and the list of vital (essential) records, determine whether the damaged records are duplicated elsewhere, and if so whether their restoration is necessary. A rule of thumb is that it is cheaper (in the case of paper documents, not film) to replace material rather than to restore it. Once the decision has been made as to which materials need restoration, use the damage location inventories to determine the restoration procedures that will be required and the volume of records involved.

11. ARRANGE FOR TEMPORARY COLD STORAGE

In the event of water damage, it is usually best to have all paper records frozen. Paper records can be safely frozen from two to six years with little or no permanent damage. The benefits of freezing are: it suspends mold growth on the materials, it may protect water soluble components in the records by stopping the "wicking process", and it can postpone salvage work thus allowing time to make wiser and perhaps cheaper decisions concerning restoration. If freezer space becomes a priority, it should be used for moldy materials, leather or vellum bound materials, manuscripts, art on paper, coated stock, and material with water soluble components in descending order. Dry ice can be used as a temporary measure for transportation purposes. An alternate site for temporary storage of wet records would be to place them in freezers at a local meat packing company if space is available.

12. ASSIGNING REMOVAL PRIORITIES

Using the damage location inventory, decide the order in which damaged material should be removed from the disaster site. For example: a list in descending priority for record type would be irreplaceable records, finding aids, essential or current records, and non-current records. A list in descending priority by damage would be: wet with heavy debris, damp

with light debris, and dry or burnt. The wettest material should be removed first to decrease the humidity, and they need immediate attention to minimize damage. When removing dry or partially dry materials, restack them with spaces between the items in order to check on mold growth.

B. RECORD REMOVAL

1. NON-TEXTUAL MATERIALS

Leave all non-textual materials in their original cartons during removal. Other types of loose non-textual materials should be packed in plastic milk cartons or in plastic bags.

2. PACKING RECORDS

Separate the records by type, e.g., paper from film from magnetic tape. The material should be packed on site, and should be reboxed if necessary. Pack wet articles in plastic milk crates, available from most dairies, no more than 3/4 full. These crates are ideal as they provide adequate air circulation, can be stacked and should not collapse. If these crates are not available, use heavy corrugated cardboard boxes similar to beer cases or boxes that are used to ship books to the bindery. Dry materials, whether burnt or soiled, can be packed carefully in cardboard boxes. Label containers as to the contents and Records Center location number with wire on tags marked with pencil. Do not destroy any identifying marks or labels.

3. PREPARING RECORDS FOR FREEZING

Records that are to be frozen should be wrapped in freezer paper. If the records are to be freeze or vacuum dried, then the wrapping step may be eliminated by packing the records in milk cartons. Books should be wrapped individually, and loose records should be tied in two inch thick bundles before being wrapped. Again, records should be marked as to the type of material, Records Center location, and priority. Do not remove folders or metal fasteners at this time. Records on coated stock should not be allowed to dry before they are frozen. The only way to save records on wet coated stock is to have it freeze or vacuum dried. Also, books exposed to muddy water should not be allowed to dry. It is preferable to rinse muddy books off before freezing. They should be dipped in cold running water, and the mud can be lifted off under water gently with a soft sponge or similar object.

4. REMOVAL OF DAMAGED MATERIALS

Containers and filing cabinets can be moved by using hand trucks. Books and large volumes should be moved with metal book carts or in plastic milk crates. Loose material can be moved in plastic crates or similar containers. While removing material, personnel should be properly distributed to minimize bottlenecks. It is imperative to inventory every container or item that is removed from the disaster site using a record removal form (see Appendix 4).

Pencil and wire on tags should be used for all labeling. The damaged materials should be taken directly to the appropriate work room or transport vehicle. If the volume of material is small, one can use unrefrigerated trucks with dry ice for transport. Material should not be stacked unless it is placed in milk cartons or something similar that will not collapse. Do not place excessive weight on wet material.

5. FREEZING DOCUMENTS

It is essential that the records be taken to a cold storage facility as quickly as possible. It is preferred to ship the documents in a refrigerated truck, if this option is not available it is possible to pack the truck partially with dry ice. It is preferable that the documents be frozen as quickly as possible, at -20°F in order to insure the smallest ice crystals. Records should be delivered to the treatment facility in a refrigerated state. Photographic materials should not be frozen unless it is impossible to have them dried. The formation of ice crystals can affect these types of records. Do not attempt to dry photographic materials by freeze or vacuum drying.

III. RESTORATION PROCEDURES

Remember, it is usually cheaper to replace a record than to restore it. Security copies can make the restoration unnecessary. The best time to fix the cost of repair work is after the material has been dried or made usable. Seek professional advice in the repair of intrinsically valuable documents.

A. WORK STATIONS

Adequate working areas must be established. Buildings with large floor space such as empty warehouses, storefronts, and gymnasiums make excellent work areas. Different procedures should be carried out in different rooms. The atmospheric conditions of the work rooms should be maintained at a temperature between 50 and 60° F, and a relative humidity between 35% and 45% for wet records and a relative humidity of 70% to 80% for burnt records. A volunteer should be assigned to check these conditions periodically with a sling psychrometer. The rooms should be equipped with large work tables covered with plastic. The workers should be supplied with protective clothing. The work rooms should be kept as clean as possible, someone should be assigned to clean the room periodically.

B. SYSTEM RECOVERY

Contact the Systems Division of General Services to receive instructions as to where and when equipment can be supplied to recover the Tennessee Records Administration Computerized Entry System (TRACES). The Systems Division will install the TRACES program on the necessary computer equipment and obtain the latest back up information from Iron Mountain. Information should then be down loaded into the equipment provided by the Systems Division

C. PAPER DOCUMENTS

A general rule is that it is cheaper to replace paper documents than restore them. Also, it is often possible to either microfilm or copy the records after they have been dried in order to preserve the information contained at a fraction of the cost of restoring the documents. The decision on the drying method to be used is often contingent on the volume involved.

1. WATER DAMAGE

Wet paper begins to adhere to itself after 24 hours, after 48 hours it begins to wrinkle. Submerged paper documents will absorb water, and through "wicking" will cause any dry portion of the document to absorb water resulting in more damage. The major portion of the damage done to paper occurs during the first 8 hours that it is wet. Water soaked materials left out of water in a 70 degree F and 70% relative humidity environment will develop mold within 48 hours. Freezing paper documents will stop this wicking action, will stabilize water soluble components of the document, and will suspend the growth of mold. Paper documents can be frozen from 2 to 6 years with little or no permanent damage, allowing for careful consideration of the alternatives before action must be taken.

2. FREEZE AND VACUUM DRYING METHODS

The advantages of either freeze or vacuum drying are that they protect the water soluble components of the record and inhibit the growth of mold. Additionally, freeze drying should reduce stains and reduce or eliminate smoke odors. For vacuum drying, books should be placed vertically in the boxes with the back edges of the books on the bottom of the box to facilitate the transfer of heat. Freeze drying will promote acid migration which should make deacidification of the documents necessary unless acid free documents have been segregated. Vacuum and freeze drying are cost effective for a large volume of records, and freeze drying is recommended for valuable records.

3. OTHER METHODS OF BATCH DRYING

Other methods of batch drying are hop kilns, lumber kilns, and seed mills which are heated to $100^{\,0}\mathrm{F}$ and the air circulates at 25 mph. It is important that the records are in containers that have air holes, that the thermostats are turned down to a minimum, and the process is observed in case anything goes awry. This process can take from 8 to 14 hours. If the amount of documents is minimal, use mangles, blue print dryers, and photographic print dryers. It is best to run the documents through several times at reduced heat in order to minimize damage due to direct heat. While these methods should get your records in usable order, they should only be used on documents with a limited lifespan in which the information contained is the only value of the document. Therefore these methods should not be used on permanent records which have intrinsic value.

4. AIR DRYING

This method should be used if the volume of materials to be treated does not justify the expense of freeze or vacuum drying, or the records are valuable and should not be subjected to heat. The materials should be transported to the drying rooms set up to handle them. If the materials have been frozen they must be allowed to thaw completely before working with them, which may take between 24 and 48 hours.

The records should be removed from the containers. Maps and other over-sized documents should be unfolded and laid out flat on absorbent material that should be changed frequently and lightly weighted, or they can be hung from a clothes line. They should be dry in 30 to 48 hours. Remove and discard file folders and any type of fastener from the documents. Wet loose documents can be separated by laying a damp sheet of polyester film (3 mils thick and slightly larger than the dimensions of the documents) on top of a stack of wet pages. Gently roll the film sheet back, the surface energy of the water should cause the top document to stick to the film. Lay the two items polyester side down on the table, place a piece of dry polyester webbing on top of the document, and turn the entire sandwich over. Remove the wet film and replace it with another piece of webbing. Stack the remainder of the documents accordingly, interleaving with the polyester webbing. If polyester webbing cannot be obtained, unused newsprint or paper towels can be used, which should be changed frequently. They should not be reused until they are thoroughly dry.

Books with concave spines and covex fore edges are generally wet. The books should be stood upright on the head end on top of absorbent paper which should be changed frequently. Once the books are dry enough to open, then they should be interleaved with thymol impregnated sheets every fifty pages and left in an upright position. The interleaving sheets should be changed frequently, and can be used again after being impregnated with thymol and completely dried. To regain the original shape of the book, the volume can be hung from monofilament nylon line (similar to fishing line), one line every half inch of thickness of the volume. No book over six pounds should be hung up. When books are nearly dry, they should be closed and laid flat on a horizontal surface, gently formed into normal shape, and held in place with a light weight. Materials should be removed from the drying rooms as soon as they are dry.

5. RECOVERY FROM FIRE DAMAGE

Remove the records from the containers and spread them out as space allows. Handle the materials carefully as they will be brittle and subject to tearing. When opening file cabinet drawers, have a fire extinguisher ready in case of spontaneous combustion. Gently clean the damaged materials with a soft bristled brush at first, eventually moving up to a draftsman type eraser. Do not use any type of suction device. After the documents have been cleaned, make duplicate copies using either microfilm or paper. Deacidify the materials if possible, and refile in acid free folders. Extremely brittle materials may be supported between pieces of cardboard for extra protection. Repack the materials in new cartons. Illegible materials can be photographed using ultraviolet light in complete darkness in order to save the information contained in the document. Materials that are badly burnt should be discarded.

6. RECOVERY FROM ASH AND DEBRIS

Remove the records from their containers and put them on a work table as space allows. Surface dust and dirt can be brushed off with a camel hair brush or soft chamois cloth. Brush strokes should be made slowly and carefully, from the center of the document to the edge, and care should be exercised so that the dust is contained. The removal of caked dirt should be left to those with experience in such procedures. When vacuuming documents, a piece of cheese cloth should be placed over the vacuum nozzle in order to prevent loose documents and fragments from being sucked up.

7. DEACIDIFICATION

Deacidification of materials is recommended before they are returned to storage. Loose records should be refiled in acid free folders and new record center cartons. Consult with a professional conservator to determine if materials require cleaning, deacidification, mending, or other types of repair.

D. PHOTOGRAPHIC MATERIALS

Film should be closely inspected to ascertain the extent of damage. Unlike other types of records media, replacement is not necessarily cheaper than restoration. Also, the question of the existence of a security copy may affect the decision. It is recommended that the Records Management Division, Micrographic Services Section, provide information and advice regarding what to do with damaged microfilm.

1. INSPECTION OF PHOTOGRAPHIC MATERIAL

The material should be inspected to ascertain the amount of damage done to it: If film is water damaged, do not use the rewinds or the reader/printer to inspect the film as this will further damage the film. If the film is damaged by heat, the film may be inspected on the rewinds to check for buckling, melting, separation of emulsion. Never use the reader/printer as it may damage the film further. If film has been damaged enough to make it useless, it may be replaced with a copy of the security copy. If there is no security copy, restoration procedures should take place. (See appendix 5).

2. WET PHOTOGRAPHIC MATERIAL

Microfilm, negatives, and photographic prints that are wet should be kept wet. These materials should be placed in clean cool running water in clean plastic containers until they can be transported to a professional photographic service center where they can be reprocessed. If the film or photographs are allowed to dry, the emulsion will adhere to whatever it is in contact with. Rolls of microfilm will become a solid mass. Black and white materials can be submerged for 72 hours, and color for 48 hours before the emulsion will separate. However, it is best to keep this period to a minimum, preferably less than 24 hours. Do not ship film to the processors before making prior arrangements. The water in the containers can be kept cool by the periodic addition of ice to the water. Muddy film should be segregated from clean.

3. FILM COVERED BY DEBRIS, ASH, OR SOOT

Dust or ash covered, or sooty photographic materials can be cleaned by wiping it gently with a soft cloth moistened with microfilm cleaning fluid. Do not attempt to clean the materials with a brush as it may damage the emulsion. It may be advisable to reprocess the materials after they have been cleaned. It is recommended to have all such work performed by a professional film laboratory.

4. RESTORATION OF PHOTOGRAPHIC MATERIALS

The Eastman Kodak Company (appendix 5) will restore damaged film for free or little charge, if the agency uses primarily Kodak film and the film is processed by a lab that subscribes to the Kodak Image-Guard Program or internal processing facilities to Kodak standards. Kodak film will be restored for free and Fuji film will require a minimal charge. The Records Center should not concern itself with separating the two as Kodak will do this. Silver and Diazo film does not need to be separated from the original security copies. Kodak will separate them for us. There is, however, a fee for restoring these duplicates.

5. COPY WORKING COPY FROM AGENCY

An alternate method of recovering microfilm is for the Records Center to retrieve the working copy from the agency for duplication.

6. LOST OR STOLEN DOCUMENTS

When Kodak Microfilm customers, who regularly photograph their records on microfilm purchased from Kodak or Kodak Authorized Distributors and process this film through a processing lab that subscribes to the Kodak Image Guard Program or internal processing facilities to Kodak standards, suffer a loss of these records while they are in transit between the microfilming location and their subsequent destination (such as lost transit letter, lost or stolen documents); or if copies of these documents are forged or illegally presented for payment, Kodak will, at its discretion produce reduced-size electrostatic prints in roll form without charge. Contact the Quality Control Laboratory by phone (1-800-352-8378). Additional prints from the same exposure, prints of any other exposure not involving loss or unlawful circumstances, and prints to be made from films not sold by Kodak will be charged for at established prices.

E. MAGNETIC TAPE

Magnetic tape is hygroscopic, and as such is subject to water damage that eventually will make the tape unusable. The tapes are also subject to damage from heat, hot water, and steam which will result in layer to layer adhesion and tape distortion which will cause a permanent loss of information. While magnetic tape is similar in construction to photographic film, the restoration process is quite different. Magnetic tape can be saved through vacuum or freeze drying. As with other types of records, the existence of a duplicate copy should make restoration unnecessary.

1. WATER DAMAGE

A. Freezing and Vacuum Drying

Freezing should take place during the first 48 hours after the media has been exposed to water. During the vacuum drying process, the specifications for maximum temperature and humidity levels should be observed.

B. Air Drying

Remove the tapes from the water and from the general area of the flood or damage. Inspect the tapes for any visible signs of moisture, if there is any doubt about the tape being dry declare it wet. As a last resort spin the tape in a tape cleaner without a blade or tape cleaner, if a fog appears on the reel the tape is wet. Assemble the tapes into drying batches in order to maximize control over the bulk, separate the soaking

wet from those suspected of being wet. Establish a work room with an environment of 70°F and 50% relative humidity where tapes that have been submerged or subjected to cold temperatures can be reconditioned for 24 hours. Both reconditioned tapes and those that do not require reconditioning can be dried in a work room with an environment of 80°F and 20% relative humidity. After 24 hours inspect a tape from each batch by unrolling about 25 feet of the tape and while handling it gingerly, look for color differences in the tape and minute

drops of moisture. If there is some doubt about the dryness of the tape, one can try the tape cleaner test mentioned above. If the tape passes all these tests, it is dry.

C. Cleaning and Recovery of Data

Clean the tapes up to five times with a tape cleaner using both blade and wiping material. The tapes should then be tested to see if the information can be retrieved. If possible, duplicate the tape and discard the damaged copy.

IV. POST RECOVERY OPERATIONS

A. RESHELVING SALVAGED RECORDS

All areas affected by the disaster should be repaired by using fire resistant materials, and sterilized to destroy any mold problems in the case of water damage. The site should be closely inspected in order to ensure that there will be no problem with moisture. The proper temperature (50 to 60°F) and relative humidity (35% to 45%) levels should be maintained in the storage area for several days prior to reshelving materials. Periodic inspections for mold growth should continue for at least one year following the return of the materials. Materials inspected should be a random sample of the affected materials.

B. RECOVERY ANALYSIS

- 1. The cause of the disaster must be determined so that precautions can be implemented to prevent a future reoccurrence.
- 2. A meeting of the Disaster Preparedness Team should be convened to analyze the recovery. Items on the agenda should include a general summary of the recovery operation, a discussion of what went right or wrong, a review of the existing disaster plan to discover what parts need changing, and writing a report detailing the cause of the disaster and the recovery procedures that were employed which should serve as a reference for future DPTs.
- 3. If suppliers or facilities proved inadequate, new ones should be found.
- 4. Draft a letter of thanks to all those who have participated.
- 5. Draft a letter to all Agency Records Officers notifying them of their records which were not salvageable during the disaster recovery.

APPENDIX 1 - PROFESSIONAL CONSULTANTS

The following is a list of professional consultants to contact in the event of a disaster. This list includes area individuals whose aid can be obtained for an emergency situation.

Professional Advice and Assistance

Elsie Smith, Staff Attorney Department of General Services (615) 741-8232 OR 9278

Carol Roberts, Conservator

St. of TN, Library & Archives

(615) 741-2997

Kentucky Department for Library & Archives Mary Samples, Doc. Preservation 1331 Business Center Dr. 300 Coffee Tree Road

Frankfort, KY 40602-0537

(502) 875-7000

Julie Arnott Southeastern Lib. Network, Inc.

1438 West Peach Tree West Atlanta, GA 30309

(404) 892-0943 1-800-999-8558

George Cunha, Conserva. Consul. Archival Conservation Ctr

4 Tanglewood Drive Lexington, KY 40505

(606) 293-5703

Peter Waters, Conserv. Off. Library of Congress 101 Independence Ave. S.E.

Washington, D.C. 20540 (202) 707-5634

Blackmon-Mooring Steamatic Catastrophic, Inc., BMS-CAT

303 Arthur Street Ft. Worth, TX 76107 1-800-433-2940 FAX: 1-817-332-6728

Atlanta # 1-404-454-9928

Eastman Kodak Company BIS Quality Control Lab Mt. Prospect, Il 60056 (800) 352-8378

Contact: Zandy Hood

Tom Durham

State of Tennessee, TEMA 3042 Sidco Drive

Nashville, TN 37204 1-800-262-3300

8225-Daly-Road Cincinnati, OH 45231

(513) 521-9858

M. F. Bank (Thomas Usher) 3120 Medlock Bridge Rd.

Building J.

Norcross, GA 30071 1-800-843-7284 (404) 448-7250

Tennessee State University Dept. of Biological Science 3500 John A. Merritt Blvd. Nashville, TN 37209-1561 (615) 320-3322

APPENDIX 2 - SUPPLIES AND SERVICES

Listed below are the various types of supplies and services which may be needed for records recovery in the event of a disaster. Using these examples, it is recommended that prior arrangements for emergency purchasing procedures be made with the Purchasing Division utilizing several vendors, as outlined on page 24, number 6, in order to ensure the immediate availability of the desired services. Cartons for re-boxing salvaged materials should be the type currently being used by the Records Center.

<u>ITEM</u>	<u>USE</u>	<u>SOURCE</u>
dehumidifiers and/or humidifiers	humidity control	appliance stores
fans/generators	air circulation	appliance stores
cold storage lockers	freezing wet records temporarily	cold storage/ refrigeration companies/meat packing plant
plastic milk crates	packing wet and soiled records	dairy equipment suppliers/dairies
brooms, buckets, dust pans, mops	to remove debris and standing water	depart./grocery stores
folding chairs and tables	for temporary work stations	depart./grocery stores
pencils, tablets, blank labels	for initial damage appraisals and labeling cartons	depart./grocery stores
freezer paper	for wrapping records to be frozen	depart./grocery stores
sponges, paper towels	for drying damp supplies	depart./grocery stores
plastic garbage bags	for loose material and removing debris	depart./grocery stores
portable generator	alternative source of power	emergency service (police or fire department)
Hand held dryer	dry or clean PC, electronic circuits	appliance store
sump pump	to remove standing	emergency services (police or fire department)
wet/dry vacuum	water	appliance stores

freeze-dry chambers	for drying wet textual records and-Archives for less than 12 cu.ft	BSM-CAT/Library
refrigerated trucking	for transporting items to work areas and treatment facilities	freight companies
fumigator	fumigation of salvaged records	*Get name, address
brushes, chamois cloths f	for cleaning dry records h	ardware stores
extension cords	for appliances	hardware stores
flashlights & batteries	for illumination	hardware stores
hand trucks	for transporting records from disaster areas	hardware stores
hoses	to wash away debris and to fill plastic containers	hardware stores
plastic garbage cans	for soaking wet micro- film and for removing debris	hardware stores
polyethylene sheeting	to cover workroom tables	hardware stores
sterilization supplies	for sterilizing disaster areas and workrooms	hardware stores
book carts	for removal of books and oversize records	libraries/Library & Archives/rental companies/hardware stores/grocery stores
unused newsprint	for drying wet records	newspapers/News- paper Printing Corp.

photographic processin	for drying and reprocessing film and photographs	Library&Archives/ Tennessee Micro- filming,Murfrees- boro, TN
polyester film and polyester webbing	for separating and drying materials	и и
cleaning fluids	for cleaning dry microfilm	п п
thermometers and hygrometers	for regulating temper- ature and humidity in disaster areas, workrooms	temperature control companies
gloves, boots, and other protective gear	for protection from debris	department stores
facemasks		
storage boxes	replace light	State Central
box	damages	Stores
box labels		
8 1/2 X 11 paper		
phone system	replace existing system	South Central Bell
facilities support		
repellant,pesticide, spring traps, catch cages	population control	State-Central Stores, hardware Stores

APPENDIX 3 - CHECK LIST

I. PRE-EMERGENCY PLANNING

A. DISASTER PREPAREDNESS TEAM

 1.	Designate Recovery Director for DPT.
 2.	Assign representative staff members to DPT.
 3.	Appoint building landlord representative to DPT.
 4.	Appoint emergency response official to DPT.
 5.	Select additional members as needed.
 6.	Contact local emergency services/management official.
	B. PREVENTION PRECAUTIONS
 1.	Check building periodically for hazards.
 2.	Prohibit smoking in all records storage areas.
 3.	Install and inspect class ABC fire extinguishers.
 4.	Check air conditioning systems.
 5.	Check drainage of floors.
 6.	Raise all storage cabinets off the floor that contain permanent or essential records. Do not place vital or
	permanent records in bottom drawers.
 7.	Use steel shelving with adequate cross bracing.
 8.	Move microfilm security copies off-site.
 9.	Store microfilm of different generic types separately.
 10.	Duplicate and discard all nitrate base negative film.
 11.	Use fire-resistant materials in remodeling office space.
 12.	Inspect fire suppressant systems quarterly.
	C. EMERGENCY PREPARATIONS
 1.	Provide emergency instructions to all employees.
 2.	Update floor diagrams with records locations.
 3.	Update a list of professional consultants.
 4.	Prepare a list of volunteers to assist with records recovery.
 5.	Update a list of supplies and facilities needed for recovery.
6	Create and dunlicate any forms needed for recovery

II. INITIAL RECOVERY PROCEDURES

A. DAMAGE ASSESSMENT

 1.	Assemble the Disaster Preparedness Team.
 2.	Secure entry to damaged areas.
 3.	Determine extent of damage to records and building, retain information for insurance and settlement
	purposes.
 4.	Assemble volunteers and supplies needed for initial recovery.
 5.	Set up operations desk for Recovery Director.
 6.	Stabilize temperature and humidity in disaster areas.
 7.	Prepare damage location inventories.
 8.	Make treatment decisions as appropriately as possible.
 9.	Arrange for temporary cold storage if water damage is present.
 10.	Establish the necessary work rooms for records treatment.
 11.	Assign removal priorities from disaster areas.
 12.	Organize volunteers who should be helping with recovery operations.
 13.	Distribute rubber gloves, boots, or other protective gear.
	B. REMOVAL OF RECORDS
 1.	Pack damaged records.
 a.	Pack wet articles in plastic milk crates (if available).
 b.	Wrap records to be frozen in wax paper.
 c.	Have a fire extinguisher ready when opening file drawers.
 d.	Immerse wet microfilm in fresh, cool water.
 2.	Remove damaged records.
 a.	Remove records using hand trucks, book carts, or human chains.
 b.	Inventory every container that is removed from the disaster area.
 c.	Take damaged materials to work rooms or transport vehicles.
 3.	Begin restoration procedures.

III. RESTORATION PROCEDURES

A. WORK STATIONS

 1.	Climate should be controlled: temperature 50 to 60°F, relative humidity 40% to 45% for wet and 70% to
	80% for burnt records.
 2.	Rooms should be furnished with plastic covered tables.
 3.	Workers should be given protective clothing.
 4.	Work stations should be kept clean.
	B. PHOTOGRAPHIC MATERIALS
 1.	Photographic materials should be inspected for damage.
 2.	Wet materials should be reprocessed.
 3.	Dirty film can be cleaned with microfilm cleaning fluid.
 4.	Contact agencies to secure original film for duplicating
 5.	Contact Kodak for film recovery
	C. PAPER DOCUMENTS
 1.	Wet paper should be frozen. Documents must be thawed before treatment.
 2.	Drying alternatives:
	a. Freeze or vacuum drying.
	b. Batch drying: hop or lumber kilns, seed mills, mangles, blueprint
	dryers, or photographic print dryers.
 _c. A	ir drying: for minimal amounts of documents, using primarily newsprint
	or similar blotting paper.
 3.	Fire damage:
	a. Clean the documents with erasers and brushes.
	b. Duplicate the documents for research and reference use.
 4.	Ash and debris can be removed with a brush or vacuum.
 5.	Deacidify the documents.

D. MAGNETIC TAPE

	1.	Freeze the tapes within the first 48 hours of being exposed to water.
	2.	Freeze or vacuum dry the tapes.
	3.	Tapes can be air dried in a room with a temperature of 70°F and 50% relative
		humidity.
	4.	Clean and duplicate the tapes.
NOTES:		
NOTES		

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INITIAL DAMAGE APPRAISAL

LOCATION (Floor/Area)

DAMAGE (Type/Extent)

RECORDS AFFECTED (Type/Volume)

RESTORATION NEEDS (Techniques/Supplies/Facilities)

DAMAGE LOCATION INVENTORY

LOCATION DAMAGE RECORDS AFFECTED REMOVAL RECOVERY NEEDS (Floor/Area) (Type/Extent) (Type/Volume) (How/To) (Supplies/Facilities)

GS-0927 51. RDA Pending

REMOVAL INVENTORY

RECORDS DESCRIPTION (Series/Volume)

(Disaster Area)

ORIGINAL LOCATION TEMPORARY LOCATION IDENTIFICATION

(Work Station) (Crate No., etc.)

DISASTER PREPAREDNESS TEAMS

Home Number

Chester Hughes*	Recovery Director	HOME TELEPHONE NUMBERS WILL BE
Bill Bisig*	Assn't Recovery Director	PLACED IN DPT PACKETS
Donna Bridges*	Team CoordinatorTeam I	TACKLIS
Ray Wilson*	Team CoordinatorTeam II	
John Stanley*	Team CoordinatorTeam III	

^{*} The Recovery Director and Team Coordinators will assume the role of the initial damage assessment team.

Team Members

	Area of Responsibility	Team_Number
Jerry Langley	Microfilm	Team III
Judith Mock	Microfilm	Team III
Herbert Hobson	Microfilm	Team III
Curtis Burns	Microfilm	Team III
Jerry Powers	Microfilm	Team III
John Ingram	Warehouse	Team II
David Seay	Warehouse	Team II
Betty Bowles	Warehouse	Team II
Steve Sweeney	Warehouse	Team II
Leithelia Frierson	Warehouse	Team II
Elaine Eason	Office Area	Team I
Carolyn Jamison	Office Area	Team I
Linda Frankum	Office Area	Team I
Claude Cartwright	Office Area	Team I
Beverley Norment	Office Area	Team I
Christi Poston	Office Area	Team I

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Volunteers

Agency Records Officers (See Appendix 18 for list of Records Officers)

Library and Archives Staff.

EMERGENCY SERVICE LIST

<u>Service</u>	Name	<u>Telephone</u>
ADS Security	Duty Officer	269-4448
Capitol Police	Duty Officer	741-2138
Eastman Kodak Company	Zandy Hood	1-800-352-8378
Compass	Jerry Sanders	361-4585
Facilities Management	John Buchanan	262-6137
Fire, Police, Ambulance	Duty Officer	911
General Services Commissioner	Larry Haynes	741-9263
Deputy Commissioner	Ed Jones	741-9267
Purchasing	George Street	741-1035
Library & Archives	Restoration Services	741-2997
Motor Vehicle Management	Bobby Parton	741-1637
Poison Control	Duty Officer	936-2034
Property Services Management	Joe Wiggins	741-9381
Property Utilization	David Graham	350-3373
Capitol Facilities Mgmt.	Ed Lenfant	741-3317
Systems Management	Tony Earp	741-5079
TEMA	John White Cecil Whaley	741-0001 1-800-262-3300
Fiscal Services	Tommy Chester	741-3066
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SPECIALIZED RECOVERY SUPPLIES, EQUIPMENT AND SERVICES

The companies listed below should be able to provide the services necessary in case of a disaster within the State Record Center. The services each company provides are indicated by an asterisk.

Blackmon-Mooring Steamatic Catastrophic, Inc., BMS-CAT

303 Arthur Street Ft. Worth, TX 76107 1-800-433-2940

FAX: 1-817-332-6728

Atlanta Number 1-404-454-9928

*damage-assessment drying recovery, reconstruction, freezing dehumidifying

Steamatic

2219 Suite B. Dunn Avenue

Nashville TN, 37211

242-0446

* Removal of water damage products.

United States Cold Storage (Contact Jerome Scherer)

1727 J. P. Hennessey Dr.

Lavergne, TN 37087

641-9800 FAX: 615-641-2824

* Specialize in quick freeze drying, which is necessary to prevent severe damage to water damaged documents.

M. F. Bank

3120 Medlock Bridge Road

(Contact: Thomas Usher)

Building J.

Norcross, GA 30071 1-800-843-7284 (404) 448-7250

* Specialize in record restoration.

Eastman Kodak Company (Contact: Zandy Hood

Company
BIS Quality Control Lab
ly Hood
1331 Business Center Dr.
Mark Goran)
Mt. Prospect, Il. 60056

1-800-352-8378 1-708-635-5955

1-704-523-0390

* for restoration of water damaged film, lost or stolen documents

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APPENDIX 8 RENTAL EQUIPMENT

This list contains those vendors that should be able to supply the facility with various types of household and industrial equipment, i.e., shovels, platforms, air compressors, forklifts, etc.

<u>COMPANY</u> <u>ADDRESS/TELEPHONE</u>

Tennessee Tool Supply 91 Polk Ave., Nashville, TN

244-8005 FAX: 254-0102

TN Tool Rivergate- 116 Midtown Court, Hendersonville, TN 37075

Hendersonville 824-1173 or 264-1000

Care Van 614 4th Avenue South, Nashville, TN 37210 Contact:Barry Lee Beeper: 244-2273 Office: 254-2273

Ford Tractor Inc. 3570 Dickerson Road, Nashville, TN 37207

865-7800

Highland Rim Tractor 1333 Louisville Highway, Goodlettsville, TN 37072

859-5037 or 859-7425

Westside Equipment & Supply 3716 Charlotte Avenue, Nashville, TN 37209

Ron Smith FAX: 297-9150 Office: 297-8888 Night: 331-2141

Jeffords Corporation 754-0300 Work: 754-6440 Gary Shield Acct No: xxxxxFAX: 889-3123

202 Belinda Pky

Mt. Juliet, TN 37122-3643

Central Stores TEMA info. 350-3088 Debbie or Clift

Boise-Cascade 868-8930 Acct# xxxxxxxxx

Telecom 741-0152 B: 780-0654 Mr. Norris Hoover Night: 849-9716

TRICOR (furniture, desk) 741-6131 Barbara or Frank

Facility Planning 741-4036 Mark Vogle

Power Equipment Company 885-5488

1877 Air Lane Drive Home: 859-6131 Ralph Ball, Asst. Reg. Mgr.

ALTERNATE STORAGE FACILITIES

<u>COMPANY</u> <u>ADDRESS/TELEPHONE</u>

Ted R. Sanders 7149 Centennial Blvd.** or Randy Nashville, TN 37209

664-1000 or 373-3322 FAX 244-7244

* Sprinklers, Containerization Storage, Pickup and Delivery, Insurance, Security and Fire Protection.

Central Van & Storage 809 Lea Avenue Attn: Larry Griggs Nashville, TN 37203

242-0459 FAX 256-3341

Overnight Emergency Only: 226-4493

* Pallatized Storage, Fireproof, Sprinklers, Heated, Records Storage, ADT Security.

Arcus Data Security*** 226 3rd Avenue, North

Nashville, TN 37201 244-1140 FAX 255-1886

Available State Facilities Call F&A

Bob Vorhies 1-4138 Rick Harris 1-6343 Font Smothers 1-4086

**Address verified 1/28/99

***Company name verified 1/28/99

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VEHICLE RENTALS

COMPANY/ADDRESS	<u>TELEPHONE</u>	<u>EQUIPMENT</u>
Budget Truck (only at airport)	366-7090	18 x 24 Vans
Pensek Truck Leasing Mr. Keven Senters 415 11th Avenue North Nashville, TN 37203	254-5528 (D and N) FAX: 254-5559	8 x 24 Vans
Ryder Mr. Keith Geier 1220 Faydur Circle Nashville, TN 37210	254-1969 FAX: 782-3659 Night: 254-3600	22 x 24 Vans
U-Haul Mr. Mike Hensley 241 N. First Street Nashville, TN 37213	383-6456 Night: 834-2649	All Sizes
Rapid-Ways 437 Enos Reed Drive Nashville, TN 37210	254-6688 FAX 248-6199	Semi-Trailer 45 footers
State of Tennessee Division of Motor Vehicle Management 2200 Charlotte Ave. Nashville, TN 37243	741-1637	Vans, Semi, Automobiles

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MICROFILMING SERVICE, EQUIPMENT & SUPPLIES

COMPANY/ADDRESS	<u>TELEPHONE</u>
American Micrographic 3040 Sidco Dr. Nashville, TN 37204	259-4929 FAX 259-9484
Bell & Howell	1-800-231-2283
IKON Sidco Drive Nashville, TN	256-2122 Office 256-0387 Service FAX 242-6186
Kodak Ron Sine P.O. Box 1151 Hendersonville, TN 37075	824-1996
Peterson Micrographics 2710 Old Lebanon Rd. Nashville, TN 37214	391-3516 Office 391-0556 Service

EQUIPMENT EMERGENCY NUMBERS

<u>EQUIPMENT</u>	<u>TELEPHONE</u>
Ozalid Duplicator	415-965-7350
Eastman Kodak Company	1-800-828-5921
Extek	310-605-0755 1-800-421-5505
Kodak Representatives	252 4107
Zyg Durski	252-4197
Ron Sine	824-1996
Minolta	264-1657

PREVENTATIVE/RECONSTRUCTION PROCEDURES

<u>MEDIUM</u>	<u>DAMAGE</u>	<u>CAUSE</u>	WHAT TO DO
Paper	Charred	Fire damage	Laminate Paper copy Microfilm
Paper	Wet, soggy	Water damage	Freeze dry Blast freeze
Paper	Mold/mildew	Humidity	Ventilate Brush lightly Thymol crystal treatment Dry at 140 degrees maximum Keep temperature at 65 to 75 degrees Keep relative humidity at 50 percent
Microform	Wet	Water damage	Place in plastic container filled with clean, room-temperature water for storage Freeze if salvage operation takes more than a few days
Microform	Mold/mildew	Humidity	Keep relative humidity at 40percent Relative humidity above 80 percent causes fungus growth
Magnetic	Mold/mildew	Humidity	Ventilate Clean carefully with restorative solution

RECORDS CENTER LAYOUT

IDENTIFICATION OF VITAL (ESSENTIAL) RECORDS

A vital or essential record is defined as any public records essential to the resumption or continuation of operations, to the re-creation of the legal and financial status of government in the State or to the protection and fulfillment of obligations to citizens of the State. Tennessee Code Annotated, 10-7-301(4).

This section is intended to be an overview and reference guide to identification of vital records housed at the State Records Center. It provides guidelines necessary for the successful identification and protection of these vital records.

The loss of vital records and information has resulted in the dissolution of some organizations that were unable to reconstruct vital

records. Although it is unrealistic to imagine the Records Management Division disbanding due to loss of vital information, nonetheless, the Division could be slow or nonresponsive due to lack of appropriate information, particularly during a major catastrophic event.

The primary concern of the vital records program is the protection of <u>information</u> rather than the protection of records. This can be achieved by establishing a program which consists of (1) the assignment of program responsibilities to a person whose functional responsibilities include dealing with all components of the agency; (2) the careful selection of vital records and information through a records inventory; (3) the review of protection methods available and appropriate for vital records and information programs; (4) the establishment of administrative policies and procedures; (5) the creation of a disaster recovery plan; and (6) the auditing procedures to maintain ongoing and effective programs.

For a good vital records and information program, it is important that management be <u>selective</u> and protect only that information that is absolutely necessary to conduct emergency operations, normal Division functions, or protect the rights and interests of government and individuals. This normally represents three to five percent of all records and information maintained by most Agencies.

A record is either vital and protected against loss, or it is not vital and should not be given the added protection offered by a Vital Records Program.

The Records Management Division must analyze and update its own operations and records to determine what information is vital to its continued existence and the performance of its critical missions. A floor plan and a current printout of records stored at the State Records Center showing locations of vital records is essential for quick retrieval following a disaster. See Appendix 14 for floor and emergency evacuation plan.

The following is a list of records currently stored at the State Records Center which have been identified as vital (essential)records for the State. These records are also identified in Appendix 16 on the Records Center Layout.